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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* CHRISTINE NOEL  
and ANNE-FRANCE LIVERNETTE

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Appeal 2012-000646  
Application 10/685,505  
Technology Center 1600

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Before ERIC GRIMES, ERICA A. FRANKLIN, and  
JACQUELINE WRIGHT BONILLA, *Administrative Patent Judges*.

BONILLA, *Administrative Patent Judge*.

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134 involving claims directed to an oil-in-water emulsion composition comprising a hydrophilic polymer, at least one elastomeric organopolysiloxane, and a glycine derivative, where the composition is free of surfactant. The Examiner has rejected the claims as obvious. We have jurisdiction under 35 U.S.C. § 6(b). We reverse.

## STATEMENT OF THE CASE

Claims 1, 6, 8-18 and 20 are on appeal. Claim 1 is the only independent claim and reads as follows (emphasis added):

1. A stable composition in the form of an oil-in-water emulsion comprising an oily phase dispersed in an aqueous phase and a hydrophilic polymer, said composition further comprising:

(1) at least one elastomeric organopolysiloxane dispersed in the oily phase, wherein the elastomeric organopolysiloxane is present in an amount ranging from 1 to 20% by weight with respect to the total weight of the composition and is obtained by addition and crosslinking reaction, in the presence of a catalyst, of at least:

- a first organopolysiloxane (i) containing two vinyl groups in  $\alpha$ - $\omega$  position on the silicone chain per molecule; and

- a second organopolysiloxane (ii) containing at least one hydrogen atom linked to a silicon atom per molecule, and

(2) *a glycine derivative selected from the group consisting of capryloylglycine, undecylenoylglycine, and mixtures thereof*, wherein the glycine derivative is *present in an amount sufficient to stabilize the composition, wherein the composition is free of surfactant*.

The claims stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Lorant et al. (EP 1055406 published Nov. 29, 2000 or U.S. Pat. No. 6,465,402 B1 issued Oct. 15, 2002, the English equivalent) in view of Fotinos (U.S. Pat. No. 6,346,255 B1 issued Feb. 12, 2002).

### *Issues*

The issues in this case are (1) whether the Examiner has presented a prima facie case of obviousness based on Lorant in view of Fotinos, and if so, (2) whether Appellants' evidence of unexpected results regarding stability of the composition of claim 1 comprising "a glycine derivative

selected from the group consisting of capryloylglycine, undecylenoylglycine, and mixtures thereof” is sufficient to rebut the prima facie case.

*Findings of Fact*

1. The Examiner finds that Lorant teaches an oil-in-water emulsion comprising an organopolysiloxane elastomer in the oily phase and a water-soluble polymer in the aqueous phase, where the emulsion is stable and does not contain any surfactant. (Ans. 4-5.)
2. According to the Examiner, Lorant teaches the use of  $\alpha$ - $\omega$  dimethylvinylpolydimethylsiloxane, and the elastomer gel is used in an amount of preferably 1.5-20%. (Ans. 5.)
3. The Examiner concludes that Lorant describes a composition comprising all elements recited in pending claim 1, except that Lorant “does not teach the use of the instant lipophilic amino acids.” (Ans. 6.) In other words, the Examiner finds that the reference does not teach the use of “a glycine derivative selected from the group consisting of capryloylglycine, undecylenoylglycine, and mixtures thereof,” as recited in claim 1.
4. Appellants do not dispute this finding of the Examiner (FF 3). Instead, Appellants assert that the prior art does not disclose the required glycine derivative(s) in a composition in a stabilizing effective amount. (App. Br. 4.)
5. The Examiner finds that Lorant teaches that its compositions may include active agent in the amount of 0.01 to 30%. (Ans. 5.)

6. Lorant states that:

The compositions of the invention can preferably include conventional adjuvants known to those of ordinary skill in this art, such as *hydrophilic or lipophilic active principles*. .... Preferably, these adjuvants are used in the proportions usual in the cosmetics field, *for example, from 0.01 to 30% of the total weight of the emulsion* ....

(Lorant col. 10, ll. 32-40)(emphasis added).

7. Lorant further teaches:

Preferable active principles include, for example, moisturizing agents ...; keratolytic agents ...; salicylic acid and its derivatives; vitamins ...; depigmenting agents; slimming agents; screening agents; and *any active principle appropriate for the final purpose of the composition*.

(*Id.* at col. 10, ll. 52-59) (emphasis added).

8. Fotinos discloses a cosmetic pad comprising a cosmetic formulation.

(Fotinos col. 1, ll. 16-20.)

9. Fontinos discloses examples of cosmetic agents for incorporation into the formulation include:

antihyperpigmentation agents, anti-blotching agents, anti-aging agents, eye contour agents, slimming agents, anti-cellulite agents, soothing agents, sunburn agents, anti-irritating agents, skin firming agents, anti-elastase agents, anticollagenase substances, free radical scavengers, *seboregulators*, hydratives, and AHA ( $\alpha$ -hydroxy acid) agents, vitamins, anti-oxidants, anti-irritants and minerals.

(*Id.* at col. 2, ll. 50-58) (emphasis added); *see also* col. 6, ll. 37-46 (including seboregulators in a long list of types of cosmetic active agents known in the art).

10. Fotinos teaches that seboregulators “include lipoamino acids of natural origin such as *capryloyl glycine*; oxidative enzyme mixtures; and mixtures of hydrolyzed yeast proteins and vitamins and related compounds.” (*Id.* at col. 7, ll. 56-63) (emphasis added).

11. Fotinos expressly discloses one of the two glycine derivatives recited in instant claim 1, i.e., capryloylglycine, and describes it as a known cosmetic active. (FF 9, 10.)

12. Fontinos’ Examples 37-40 describe using a seboregulator in an amount of 1% w/w on a dry basis in a pad composition, but do not refer to capryloylglycine in particular. (Fotinos col. 14, l. 63 – col. 15, l. 12.)

13. Appellants rely on two Rule 132 Declarations by inventor Ann-France Ratel submitted November 1, 2006, and July 24, 2007, respectively (“Ratel Declarations”). (App. Br. 5.)

14. The Ratel Declarations present comparative data relating to “Invention Compositions” comprising 0.125% undecylenoylglycine, and Comparative Examples comprising methionine, glycine or no amino acid in place of undecylenoylglycine. (Ratel Declaration submitted November 1, 2006, ¶ 3; Ratel Declaration submitted July 24, 2007, ¶ 3.)

15. The Ratel Declarations describe Invention Compositions as stable creams, and Comparative Examples as unstable dispersions having large oily globules throughout. (Ratel Declaration submitted November 1, 2006, ¶¶ 7-9; Ratel Declaration submitted July 24, 2007, ¶¶ 5-7; *see also* photographs at Tab A.)

*Principles of Law*

The ultimate question of obviousness is one of law, based upon factual inquiries set forth in the *Graham* case: (1) the scope and content of the prior art; (2) the differences between the prior art and the claims at issue; (3) the level of ordinary skill in the pertinent art; and (4) objective evidence of non-obviousness, if any. *Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966). Unexpected results may be sufficient to rebut a prima facie case of obviousness. See, e.g., *Kao Corp. v. Unilever U.S., Inc.*, 441 F.3d 963, 970 (Fed. Cir. 2006); *In re De Blauwe*, 736 F.2d 699, 706 n. 8 (Fed. Cir. 1984) (stating that “[a] proper showing of unexpected results will rebut a prima facie case of obviousness”). Sufficient rebuttal evidence “can consist of a comparison of test data showing that the claimed compositions possess unexpectedly improved properties,” but “[e]ach situation must be considered on its own facts.” *Kao*, 441 F.3d at 970 (quoting *In re Dillon*, 919 F.2d 688, 692-93 (Fed. Cir. 1990) (en banc)).

*Analysis*

The obviousness rejection in this case is based on the primary reference Lorant, which discloses all elements of the composition of independent claim 1, except that it does not describe “a glycine derivative selected from the group consisting of capryloylglycine, undecylenoylglycine, and mixtures thereof,” as recited in claim 1. (Ans. 4-6.) The Examiner cites Fotinos as disclosing capryloylglycine as a seboregulator, which can act as an “active ingredient” at 1% on a w/w dry basis. (*Id.* at 6.) The Examiner concludes that it would have been obvious for one of ordinary skill in the art at the time the invention was made to

combine the teachings of Lorant and Fotinos, and to use a lipoamino acid, such as capryloylglycine, as an active agent in Lorant's composition. (*Id.* at 6-8.) According to the Examiner, "a skilled artisan would have been motivated to use capryloylglycine in particular if one desired to provide a composition that controls sebum, which causes acne." (*Id.* at 7.)

We agree with the Examiner that, based on the cited references, it would have been *prima facie* obvious to prepare the composition of Lorant with 1% w/w capryloylglycine, as disclosed in Fotinos. (Ans. 10-11.) Lorant itself taught to preferably include an active principle that was 0.01 to 30% of the total weight of the emulsion. (FF 6; Lorant, col. 10, ll. 32-40.) Lorant also taught that active principles included "any active principle appropriate for the final purpose of the composition." (FF 7; Lorant, col. 10, ll. 52-59.)

Fotinos likewise described cosmetic formulations and listed a number of well-known active principles/agents, such as seborregulators, including capryloylglycine in particular. Thus, at least in some situations, it would have been obvious to use capryloylglycine as an active principle, for example at 1% w/w, in the Lorant composition. Appellants' own data indicates that 1% w/w of a recited glycine derivative would be sufficient to stabilize the composition. *See, e.g.*, Spec., 34-36 (Examples 3 and 4) (describing 0.1% undecylenoylglycine); *see also* Ratel Declarations (describing 0.125% undecylenoylglycine).

Appellants argue, however, that "even assuming that a *prima facie* case of obviousness has been set forth... , Appellants have rebutted such a hypothetical case of obviousness with their showing of unexpected and



surprising stability of the claimed oil-in-water emulsions.” (App. Br. 6.) Appellants submit two Rule 132 declarations by inventor Ann-France Ratel as evidence “that emulsions containing the claimed glycine derivatives are stable without surfactant, whereas emulsions containing different amino acid compounds (including glycine itself) are not.” (*Id.* at 5.) Also according to Appellants, “such stabilization was surprising an[d] unexpected given the instability of and presence of large oily globules in extremely similar compositions.” *Id.* (citing Ratel Declaration submitted November 1, 2006, ¶ 9; Ratel Declaration submitted July 24, 2007, ¶ 7).

We agree with Appellants that the two submitted declarations, as well as the Specification itself, provide evidence that the formulation of claim 1, including the recited glycine derivative, has the unexpected property of being a stable cream, compared to compositions without the glycine derivative that are unstable dispersions with large oily globules. As presented in the declarations, invention compositions containing 0.125% undecylenoylglycine were stable, while comparable compositions, identical to the invention compositions except that they contained methionine, glycine or no amino acid instead of undecylenoylglycine, were unstable. *See* FF 14, 15; *see also* Spec., 34-36 (Examples 3 and 4) (describing the stability of the smooth cream formulations comprising 0.1% undecylenoylglycine, as compared to emulsions without the undecylenoylglycine, which were granular with large globules).

We agree with Appellants that the cited references would have provided no reason to expect this stabilizing property, which resulted from the addition of the recited glycine derivative in the composition. (App. Br.

5; Spec., ¶¶ 5-6.) Upon consideration of evidence of this unexpected result, the Examiner states that because Lorant described a stable oil-in-water emulsion that was stable without surfactants or the glycine derivatives of the instant claim, “appellant’s argument that the glycine derivatives of the present claims is necessary to stabilize the same emulsion as disclosed by the prior art is unpersuasive.” (Ans. 9, 11-12.) In response, Appellants point out that the present invention is an improvement over Lorant. (Reply. Br. 1.) In other words, even if Lorant’s compositions “are acceptable on one level,” the invention compositions provide improved stability as compared to the Lorant compositions. (*Id.*)

Based on the facts before us, we conclude that Appellants have provided evidence of unexpected results sufficient to rebut the *prima facie* case of obviousness. *See Kao*, 441 at 970 (stating that “unexpected results may be sufficient to rebut a *prima facie* case of obviousness”). The Examiner provides no evidence that a skilled artisan would have chosen either of the two glycine derivatives recited in claim 1 for the purpose of providing greater stability in emulsion composition. By contrast, while Fotinos mentions capryloylglycine as a seoregulator, this cosmetic agent is one of potentially thousands of possible known active ingredients listed in Fotinos. Nothing in Fotinos or Lorant suggests any unexpected result when using capryloylglycine, beyond its known “active ingredient” function as a seoregulator. Based on the evidence before us, one would have had no reason to think this particular active ingredient would do anything special regarding stability.

*Conclusions of Law*

It would have been prima facie obvious to prepare the composition of Lorant with 1% w/w capryloylglycine, as disclosed in Fotinos. However, Appellants have provided evidence of unexpected results that outweighs the evidence supporting the prima facie case of obviousness.

SUMMARY

We reverse the rejection of claims 1, 6, 8-18 and 20 as obvious based on Lorant in view of Fotinos.

REVERSED

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